

REMARKS

Claims 1-18 are pending in this application. Claims 1, 5, 6 and 15 have been amended and claims 17-18 have been added. Claims 1 and 15 are independent claims. In view of the following remarks, favorable reconsideration of the objections and rejections is kindly requested.

In addition, Applicants note that the Examiner has not indicated whether the drawings filed on February 25, 2004 have been accepted or objected to by the Examiner. Thus, Applicants will assume that the drawings are accepted, unless indicated otherwise in the next Patent Office communication.

Specification Objections

The Specification stands objected to as allegedly failing to provide proper antecedent basis for the subject claimed matter under 37 C.F.R. §1.75(d)(1). Applicants respectfully traverse this objection.

While Applicants do not consider amending necessary, in order to expedite prosecution, Applicants have amended the Specification to clarify that the surface of the nanocrystals is reduced or oxidized. Applicants submit that no new matter is included.

As such, Applicants submit that the Specification does provide support for the surface of the nanocrystal being oxidized.

Reconsideration and withdrawal of the rejection is kindly requested.

New Claims

By this amendment, dependent claims 17-18 have been added. New dependent claims 17 and 18, dependent on independent claim 15, recite different compounds that may make up

the organic dispersant. Applicants submit that non-limiting embodiments are discussed in paragraph [0027] of this application.

Thus, Applicants submit that the claim amendments/additions do not raise any new issues.

35 U.S.C. § 102(e) Rejection – Dutta

Claims 1-4, 9 and 11-16 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Dutta et al. (hereinafter “Dutta”), U.S. Patent No. 6,906,339. Applicants respectfully traverse this rejection.

Each of independent claims 1 and 15 recite the nanocrystals being coordinated by an organic dispersant. Example non-limiting embodiments of this feature are discussed, for example, in paragraph [0026] and [0027] of the instant specification. Dutta, as relied upon by the Examiner, fails to anticipate or suggest nanocrystals being coordinated by an organic dispersant as recited in independent claims 1 and 15.

Referring to paragraph [0026] of the present specification, a dispersant is added and coordinated to the nanocrystals in order to effect a good dispersing of the nanocrystals in the solvent. In column 3, rows 52-57, Dutta states that “such prior art nanoparticles that are encapsulated in a shell are not truly ‘passivated.’ Furthermore, nanoparticles coated in a shell are not elementally passivated because an organic or inorganic compound is formed on the nanoparticle, rather than a passivating element which is bound to the dangling bonds.”

Furthermore, the Examiner admits, on p. 4 of the Office Action, that Dutta does not disclose that the nanocrystals are coordinated by an organic dispersant and dispersing the nanocrystals in a solvent having an affinity with the dispersant.

The Applicants, therefore, respectfully request that the rejection to Claims 1 and 15 under 35 U.S.C. §102(e) be withdrawn.

Claims 2-4, 9, 11-14 and 16, dependent on independent claims 1 and 15, are patentable for the reasons stated above with respect to claims 1 and 15 as well as for their own merits.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection to independent claims 1 and 15 and all claims dependent thereon.

35 U.S.C. § 102(e) Rejection – Simpson

Claims 1, 3, 4, 10-13, 15 and 16 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Simpson et al. (hereinafter “Simpson”), U.S. Patent No. 6,853,669. Applicants respectfully traverse this rejection.

Each of independent claims 1 and 15 recite the nanocrystals being coordinated by an organic dispersant. Simpson, as relied upon by the Examiner, fails to anticipate or suggest nanocrystals being coordinated by an organic dispersant as recited in independent claims 1 and 15. Applicants have thoroughly examined Simpson and can find no reference to nanocrystals being coordinated by an organic dispersant or for that matter, any dispersant.

The Applicants, therefore, respectfully request that the rejection to Claims 1 and 15 under 35 U.S.C. §102(e) be withdrawn.

Claims 3, 4, 10-13 and 16, dependent on independent claims 1 and 15, are patentable for the reasons stated above with respect to claims 1 and 15 as well as for their own merits.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection to independent claims 1 and 15 and all claims dependent thereon.

35 U.S.C. § 103(a) Rejection – Dutta and Rockenberger

Claims 5-7 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Dutta in view of Rockenberger et al. (hereinafter “Rockenberger”), U.S. Patent No. 6,878,184. Applicants respectfully traverse this rejection.

The outstanding Office Action on page 4, lines 20-22, acknowledges that Dutta fails to disclose “nanocrystals being coordinated by an organic dispersant” and relies on the teachings of Rockenberger for this feature of claim 5, which is now a part of claim 1.

In addition to the above-identified deficiency of Dutta, Applicants respectfully submit that Dutta teaches away from the method recited in claims 1 and 15. More specifically, Dutta states “nanoparticles coated in a shell are not elementally passivated because an organic or inorganic compound is formed on the nanoparticle, rather than a passivating element [*e.g.*, an ammonia compound] which is bound to the dangling bonds [*e.g.*, of the nanoparticles at its surface].”¹ In other words, Dutta teaches away from using an “ammonia compound” when an “organic compound” such as an “organic dispersant” is associated with the nanocrystal. Therefore, Applicants respectfully submit that Dutta teaches away from the method of the claimed invention.

Also, the Applicants respectfully note that the Action does not present the required “convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references,” *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985), and that this rejection may not be properly maintained absent such reasoning.

¹ Dutta, column 3, lines 54-56.

Claims 2-14 and 16, dependent from claim 1 and claim 15, recite features similar to claim 1. Therefore, the arguments discussed above regarding the deficiencies of Dutta with respect to independent claim 1 and the improper combination of Dutta and Rockenberger also apply to claims 2-14 and 16.

Accordingly, Applicants respectfully request that the rejection to claims 1-16 be withdrawn.

35 U.S.C. § 103(a) Rejection – Dutta

Claim 8 stands rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Dutta. Applicants respectfully traverse this rejection.

In view of the above remarks regarding independent claim 1, Applicants submit that Dutta fails to teach or suggest nanocrystals coordinated by an organic dispersant.

Claim 8, dependent on independent claim 1, is patentable for the reasons stated above with respect to claim 1 as well as for its own merits.

Reconsideration and withdrawal of the rejection to claim 8, at least by virtue of its dependency on claim 1, is kindly requested.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-18 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

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